AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-33. (Canceled)

34. (**Currently Amended**) An actuator, comprising:

an actuator chamber including a moveable actuator piston and an actuator rod connected to the actuator piston and retractably extendable from the actuator chamber;

the actuator chamber and actuator piston defining an extend chamber and a retract chamber separated from the extend chamber by the actuator piston such that the actuator rod extends through the retract chamber; and

a fluid supply means arranged to supply pressurized fluid to both the extend and the retract chambers, to maintain, at all time the fluid supply means is operative, a pressure of the pressurized fluid in the extend chamber to be substantially the same as a pressure of the pressurized fluid in the retract chamber, and to reversibly transfer said pressurized fluid between the extend and the retract chambers of the actuator, the pressure of the pressurized fluid based on a difference in area between an area of the actuator piston facing into the retract chamber and an area of the actuator piston facing into the extend chamber and a load applied to the actuator in use.

35. (Previously Presented) The actuator according to claim 34, wherein the fluid supply means is operable to control the pressure of the pressurized fluid supplied thereby to the extend and retract chambers to be sufficient to enable the actuator to support the load applied to the actuator in use.

36. (Previously Presented) The actuator according to claim 34, wherein the fluid supply means is arranged to reversibly transfer said pressurized fluid between the

extend and retract chambers of the actuator, and to separately and independently reversibly transfer said pressurized fluid between the extend chamber and a pressurized fluid store means.

37. (Previously Presented) The actuator according to claim 34, wherein the fluid supply means is arranged to transfer between the extend and retract chambers volumes of pressurized fluid substantially equal to a change in the volume of the retract chamber.

38. (Previously Presented) The actuator according to claim 37, wherein the fluid supply means is arranged to transfer to and from the extend chamber volumes of pressurized fluid substantially equal to the change in the volume of the extend chamber less the concurrent change in the volume of the retract chamber.

39. (Previously Presented) The actuator according to claim 34, wherein the fluid supply means includes

a first fluid transfer means in fluid communication with the extend chamber and the retract chamber, the first fluid transfer means arranged to transfer there between volumes of fluid substantially equal in magnitude to changes in the volume of the retract chamber resulting from movement of the actuator piston within the actuator chamber; and

a second fluid transfer means in fluid communication with the extend chamber and operable to transfer to and from the extend chamber volumes of fluid substantially equal in magnitude to the difference between said changes in the volume of the retract chamber and concurrent changes in the volume of the extend chamber.

40. (Previously Presented) The actuator according to claim 39, wherein the first fluid transfer means is a reversible first fluid pump, and the second fluid transfer means is a reversible second fluid pump whereby the second fluid pump is arranged to pump fluid at a volumetric rate determined according to the volumetric pump rate of the first fluid pump.

41. (Previously Presented) The actuator according to claim 40, wherein the actuator chamber, actuator piston and parts of the actuator rod within the actuator chamber define a volume of the retract chamber to be of substantially annular volume, whereby a ratio of the concurrent volumetric pump rates of the second and first fluid pumps is substantially equal to the ratio of: changes in the volume of the parts of the actuator rod within the retract chamber; and, corresponding changes in the annular volume of the retract chamber.

42. (Previously Presented) The actuator according to claim 41, wherein the second fluid transfer means is in fluid communication with a fluid vessel and is arranged to transfer fluid from the extend chamber to the fluid vessel and vice versa, wherein the fluid vessel is arranged to hold fluid received thereby from the second fluid transfer means in a state sufficiently pressurized to generate a back-pressure upon the second fluid transfer means which partially resists a flow of fluid from the second fluid transfer means to the fluid vessel.

43. (Previously Presented) The actuator according to claim 42, wherein the fluid vessel is a fluid conduit connecting the second fluid transfer means in fluid communication with, and terminating at, a hydraulic accumulator.

44. (Previously Presented) The actuator according to claim 43, wherein the second fluid transfer means is a reversible fluid pump and said fluid vessel is arranged to generate said back-pressure being sufficient to urge the reversible fluid pump of the second fluid transfer means to back-drive thereby to urge the reversible fluid pump to operate to pump fluid from the fluid vessel to the extend chamber.

45. (Previously Presented) The actuator according to claim 42, wherein said fluid vessel is operable to be in fluid communication with said first fluid transfer means via said second fluid transfer means.

46. (Previously Presented) The actuator according to claim 42 including a fluid

supply operable to be in fluid communication with and to supply pressurized fluid to said fluid vessel.

47. (**Currently Amended**) A method of actuation for use with an actuator comprising:

an actuator chamber containing a moveable actuator piston;

an actuator rod connected to the actuator piston and retractably extendable from the actuator, the actuator chamber and actuator piston defining an extend chamber; and

a retract chamber separated from the extend chamber by the actuator piston such that the actuator rod extends through the retract chamber, the method including:

supplying pressurized fluid to ~~both the extend and the retract chambers~~ the actuator;

maintaining, by using a fluid supply means at all time the fluid supply means is operative, a pressure of the pressurized fluid in the extend chamber to be substantially the same as a pressure of the pressurized fluid in the retract chamber, the pressure of the pressurized fluid based on a difference in area between an area of the actuator piston facing into the retract chamber and an area of the actuator piston facing into the extend chamber and a load applied to the actuator in use; and

reversibly transferring said pressurized fluid between the extend and the retract chambers of the actuator.

48. (Previously Presented) The method according to claim 47 including controlling the pressure of the pressurized fluid supplied to the extend and retract chambers to be sufficient to enable the actuator to support the load applied to the actuator in use.

49. (Previously Presented) The method according to claim 47 including reversibly transferring said pressurized fluid between the extend and the retract chambers of the actuator, and separately and independently reversibly transferring said pressurized fluid between the extend chamber and a pressurized fluid store means.

50. (Previously Presented) The method according to claim 47 including transferring between the extend and retract chambers volumes of pressurized fluid substantially equal to a change in the volume of the retract chamber.

51. (Previously Presented) The method according to claim 50 including transferring to and from the extend chamber volumes of pressurized fluid substantially equal to the change in the volume of the extend chamber less the concurrent change in the volume of the retract chamber.

52. (Previously Presented) The method according to claim 47 including transferring between the extend chamber and the retract chamber volumes of fluid substantially equal in magnitude to changes in the volume of the retract chamber resulting from movement of the actuator piston within the actuator chamber; transferring to and from the extend chamber volumes of fluid substantially equal in magnitude to the difference between said changes in the volume of the retract chamber and concurrent changes in the volume of the extend chamber.

53. (Previously Presented) The method of actuation according to claim 52, wherein fluid is transferred between the extend chamber and the retract chamber by the reversible pumping thereof at a first volumetric pump rate, and fluid is transferred to and from the retract chamber by the reversible pumping thereof at a second volumetric pump rate determined according to the first volumetric pump rate.

54. (Previously Presented) The method of actuation according to claim 53, wherein the actuator chamber, actuator piston and the parts of the actuator rod within the actuator chamber define a volume of the retract chamber of substantially annular volume, whereby the ratio of the concurrent second and first volumetric pump rates is substantially equal to the ratio of: changes in the volume of the parts of the actuator rod within the retract chamber; and, corresponding changes in the annular volume of the retract chamber.

55. (Previously Presented) The method of actuation according to claim 52 including holding fluid transferred from, or to be transferred to, the extend chamber in a state sufficiently pressurized to generate a back-pressure which partially resists the transfer of fluid from the extend chamber.

56. (Previously Presented) The method of actuation according to claim 55 including providing a reversible fluid pump arranged to perform said transfer of fluid to and from the extend chamber by pumping said pressurized fluid, and generating said back-pressure to be sufficient to urge the reversible fluid pump to back-drive thereby to urge the reversible fluid pump to operate to pump said held fluid to the extend chamber.

57. (Canceled)

58. (Previously Presented) The method of actuation according to claim 51 for use in providing simulated motion in a vehicle simulator machine.

59. (Previously Presented) A motion platform for a vehicle motion simulator machine including an actuator according to claim 34.

60. (Previously Presented) A vehicle motion simulator including a motion platform according to claim 59.

61-64. (Canceled)

65. (**New**) The actuator according to claim 34, further comprising:
a landing valve configured to return the actuator to a fully retracted state.

66. (**New**) The method according to claim 47, further comprising:
returning the actuator to a fully retracted state by a landing valve.